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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,934	06/26/2003	Tomoyoshi Ikeya	Q76224	3424
23373	7590	11/30/2004	EXAMINER CANNING, ANTHONY J	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,934	IKEYA ET AL.	
	Examiner	Art Unit	
	Anthony J. Canning	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-11, 13 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 10, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 10, it is unclear what the recognizable figure obtained from a combination of the opposite marks is, and how it expresses a positional relation between the first and second positioning marks.

Regarding claims 4 and 11, it is unclear how the first and second positioning marks have a common center of gravity and are prevented from overlapping each other.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishigaki et al. (U.S. 5,209,688) in view of Bergeron et al. (U.S. 5,897,414).

Regarding claim 1, Nishigaki et al. disclose a display panel comprising a first substrate with transparent electrodes disposed for forming display cells within a display

area (see Fig. 1, items 1 and 3; column 1, lines 16-20; column 4, lines 65-68), a second substrate disposed separately from and opposite to the first substrate and formed with partition walls for forming section of the display cells within the display area (see Fig 1, items 2, 4, and 5; column 1, lines 16-25). Nishigaki et al. fail to disclose a first positioning mark disposed in at least two or more positions outside the display area of the first substrate; and a second positioning mark disposed in at least two or more position outside the display area of the second substrate; wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the transparent electrodes and the partition walls can directly be recognized.

Bergeron et al. dispose a display device comprising a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 1, items 54c and 54E, column 6, lines 36-46). These fiducial marks are used to align the first substrate with the second substrate; therefore even though the art does not specifically teach fiducial marks on the second substrate, it is obvious for precise alignment of the components on both substrates that there must be markings on the second substrate.

Therefore it would have been obvious to one of ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Nishigaki et al. to include positioning marks on the first and second substrate for the benefit of precise alignment of the components on both substrates that there must be markings on the second substrate.

Regarding claim 2, Nishigaki et al. and Bergeron et al. teach the display panel according to claim 1. Bergeron et al. further disclose the positioning marks on the first substrate at four corner positions (see Fig. 1, item 54c). Although, Bergeron does not specifically site positioning marks at four corner positions on the second substrate, it would be obvious to do so to have the most precise alignment of the two substrates.

Regarding claim 6, Nishigaki et al. and Bergeron et al. teach the display panel according to claim 1. The Examiner notes that the claim limitation that "the first positioning marks are formed at the same step as a step of forming the transparent electrodes, whereas the second positioning marks are formed at the same step as a step of forming the partition walls" is drawn to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the positioning mark disclosed by Bergeron et al. is at least a fully functional equivalent to the Applicant's claimed positioning mark.

Regarding claim 8, Nishigaki et al. disclose a display panel comprising a first substrate with transparent electrodes disposed for forming display cells within a display area (see Fig. 1, items 1 and 3; column 1, lines 16-20; column 4, lines 65-68), a second substrate disposed separately from and opposite to the first substrate and formed with partition walls for forming section of the display cells within the display area (see Fig 1,

items 2, 4, and 5; column 1, lines 16-25). Nishigaki et al. fail to disclose a first partition walls on both the first and second substrates, and positioning mark disposed in at least two or more positions outside the display area of the first substrate; and a second positioning mark disposed in at least two or more position outside the display area of the second substrate; wherein the first positioning marks and the second positioning marks are disposed so that the positional marks are disposed so that the positional relation between the transparent electrodes and the partition walls can directly be recognized.

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. also disclose a display device comprising a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 1, items 54c and 54E, column 6, lines 36-46). These fiducial marks are used to align the first substrate with the second substrate; therefore even though the art does not specifically teach fiducial marks on the second substrate, it is obvious for precise alignment of the components on both substrates that there must be markings on the second substrate. Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Nishigaki et al. to include spacers on both substrates and positioning marks for the

benefits of resistance to external forces and precise alignment of the components on both substrates.

Regarding claim 9, Nishigaki et al. and Bergeron et al. teach the display panel according to claim 8. Bergeron et al. further disclose the positioning marks on the first substrate at four corner positions (see Fig. 1, item 54c). Although, Bergeron does not specifically site positioning marks at four corner positions on the second substrate, it would be obvious to do so to have the most precise alignment of the two substrates.

Regarding claim 13, Nishigaki et al. and Bergeron et al. teach the display panel according to claim 8. The Examiner notes that the claim limitation that "the first positioning marks are formed at the same step as a step of forming the transparent electrodes, whereas the second positioning marks are formed at the same step as a step of forming the partition walls" is drawn to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the positioning mark disclosed by Bergeron et al. is at least a fully functional equivalent to the Applicant's claimed positioning mark.

Regarding claim 15, Nishigaki et al. disclose a method of producing display panel comprising: putting a first substrate and a second substrate on top of each other, the first substrate being formed with transparent display electrodes disposed for forming

display cells within a display area, the second substrate being formed with partition walls for forming sections of the display cells within the display area (see Fig. 1, items 1, 2, 3, 4, and 5; column 1, lines 16-25; column 4, lines 65-68). Nishigaki et al. fail to disclose forming pairs of first positioning marks and second positioning marks for use in verifying the positioning of the transparent electrodes and the partition walls in at least two or more positions outside the display areas of the first substrate and the second substrate before the step of putting the substrates on top of each other.

Bergeron et al. disclose a method of producing a display panel comprising forming pairs of first positioning marks (see Fig. 1, items 54c and 54E, column 6, lines 36-46) and aligning them with the second substrate. Even though the art does not specifically teach fiducial marks on the second substrate, it is obvious for precise alignment of the components on both substrates that there must be markings on the second substrate.

Therefore, it would have been obvious to one having ordinary skill in the art of display panel manufacture, at the time the invention was made, to modify the method according to Nishigaki et al. to have positioning marks on the first and second substrate for precise alignment of the substrates.

Regarding claim 16, Nishigaki et al. and Bergeron et al. disclose the method of producing a display panel according to claim 15. Even though, measuring the coordinates before placing the first substrate on top of the second is not specifically disclosed by Bergeron et al., it would be obvious to one having ordinary skill in the art to do so, to ensure precise alignment of the substrates.

Regarding claim 17, Nishigaki et al. disclose a method of producing a display panel comprising: putting a first substrate and a second substrate on top of each other, the first substrate being formed with transparent display electrodes disposed for forming display cells within a display area, the second substrate being formed with partition walls for forming sections of the display cells within the display area (see Fig. 1, items 1, 2, 3, 4, and 5; column 1, lines 16-25; column 4, lines 65-68). Nishigaki et al. fail to disclose forming barrier walls on both the first and second substrate, and pairs of first positioning marks and second positioning marks for use in verifying the positioning of the transparent electrodes and the partition walls in at least two or more positions outside the display areas of the first substrate and the second substrate before the step of putting the substrates on top of each other. Nishigaki et al. fail to disclose forming pairs of first positioning marks and second positioning marks for use in verifying the positioning of the first partition walls and the second partition walls in at least two positions outside the display areas of the first substrate and the second substrate before the step of putting the substrates on top of each other.

Bergeron et al. disclose a method for barrier walls on the first and second substrates (see Fig. 2b, items 50 and 78), and forming pairs of first positioning marks for use in verifying the position of the components of the two substrates in at least two positions outside the display area of the first substrate (see Fig. 1, items 54c and 54E, column 6, lines 36-46). These fiducial marks are used to align the first substrate with the second substrate; therefore even though the art does not specifically teach fiducial marks on the second substrate, it is obvious for precise alignment of the components on

both substrates that there must be markings on the second substrate. Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Nishigaki et al. to include spacers on both substrates and positioning marks for the benefits of resistance to external forces and precise alignment of the components on both substrates.

Regarding claim 18, Nishigaki et al. and Bergeron et al. disclose the method of producing a display panel according to claim 17. Even though, a step of individually measuring the coordinates of the positions of the first positioning marks and the second positioning marks before putting the substrates on top of each other, and relatively moving the first substrate and the second substrate so that deviation in position corresponding to the coordinates thus measured is adjusted is not specifically disclosed it would be obvious to one having ordinary skill in the art to do so, as to precisely align the components on both the first and second substrate.

Allowable Subject Matter

Claims 5, 7, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5 and 12 are allowable subject matter because they both specify a display panel with the limitation that the first positioning marks are formed in the same

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layer as a layer in which the transparent electrodes are formed, whereas the second positioning marks are formed in the same layer as a layer in which the partition walls are formed.

Claims 7 and 14 are allowable subject matter because the both specify a display panel with the limitation that the first positioning marks are formed of the same material of the transparent electrodes, whereas the second positioning marks are formed of the same material as the material of the partition walls.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Canning whose telephone number is (571)-272-2486. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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24 November 2004

Joseph Willinger
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